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ABSTRACT

Three short articles about tactile illustrating are presented for braille transcribers and teachers of the visually handicapped. Some transcribers have been making tactile maps with water areas textured and land masses smooth; the first article reports on the confusion these "reversed maps" cause braille readers and gives additional tips for designing and producing tactile maps. The second article focuses on tactile illustrating and tells when to enlarge, how to reproduce a geometric shape in embossed form, and where to place keys and transcriber notes. The final article gives recommendations for creating embossed displays of clocks and for making three-dimensional representations. (LH)

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TACTILE ILLUSTRATING

Tactile Maps

Betty L. Epstein, Chairman

Spring 82

It has been brought to our attention that in a few localities transcribers (illustrators) have been making tactile maps with water areas textured and land masses smooth. This is a reversal of the usual tactile map design. Most of these maps reflect a great deal of preparation time and "look beautiful" but we are primarily concerned with their value to the tactile reader.

Braille readers who examined some of these reversed maps reported that initially they confused oceans with continents. Their attention had been drawn to the textured portion and they assumed that it was land, and that the smooth part was background—ocean. The maps had been given to the examiners without comment so that their reactions would not be influenced.

Reports of the examiners were discussed with a researcher who has specialized in political maps for several years. He said that their reactions were typical and that it is logical to design tactile maps and other displays to accommodate the average tactile reader.

Although there isn't an official code for designing and producing tactile maps, a few tips or informal guidelines have emerged from continuing research, reader feedback and experimentation of professionals, often with the assistance of knowledgeable volunteers. These guidelines lay the foundation for a future code.

You should know the purpose of a map before you begin to plan the layout. Most print maps tell us much more than we need to know. Sometimes they are multi-purpose but very often they are enhanced to please the eye. Keep in mind that eye-appealing usually translates to fingertip-appalling. The print map itself may not tell you what the "thrust" should be. Check accompanying material so that you can eliminate superfluous print features. The ideal finished tactile map is a bare-bones version of the print which allows the "thrust" features to really stand out.

Even after elimination of superfluous print information you are apt to be left with a cluttered display. The clutter can be lessened by employing the following methods:

Enlarge, making sure to keep within the limitations of the Thermoform frame and space for braille identification. This space will depend upon the requirements of the receiving agency. Enlargement should be sufficient to accommodate necessary labeling and for recognition of features. When drawing an enlargement, it is not necessary to show every zig and zag of a boundary or shoreline but the original overall

look should be retained.

Further expansion can be achieved by dividing a map at logical spots, showing a skeletal complete map with those divisions and following it with the portions, which are enlarged, e.g., the United States divided at the Mississippi River. Enlarged portions would contain details which had been omitted from the skeletal map.

When a map doesn't lend itself to division, repeat the whole map as many times as necessary to show the required features clearly, one or two at a time, e.g., rainfall, temperature, population, etc.

Minimize the use of texture (shading). Do not "follow print" in deciding whether or not to use shading. "Is the color significant?" should be your yardstick for deciding. On most print maps oceans and other large bodies of water are just background which is a lovely shade of blue.

Keep braille on the map to a minimum. Enough of it actually adds texture ("noise") and interferes with scanning. The compass showing directions, which is often found on print maps, can be discarded if the map is north oriented. Most maps are, so the average braille reader assumes north is at the top of the page. If this really bothers you, you may center "north" on the first available line with a series of braille hyphens between it and the two margins.

Any braille labels should be horizontal. If they are numerous and/or in tight spots the use of a key will allow you to shorten them. Two cells of letters or contractions taken from the original label is a desirable key label. The key should always precede the map so that the reader is alerted to what he is looking for.

Lines between features and braille labels (lead lines) should be kept to an absolute minimum. If they must be used they should be very fine so they will not interfere with other lines. Grifhold Pounce #9 is the best tool for the lead line.

The preceding planning tips are applicable to paper tooling, metal tooling or collage. They may be used with braille or as a supplement to a taped transcription.

Research and reader help will turn up new and better ways to make maps. What was great ten or fifteen years ago doesn't look so good now. I look forward to keeping up with progress. I hope you do, too.

TACTILE ILLUSTRATING

Thinking Tactile

Betty L. Epstein, Chairman

To enlarge or not to enlarge? In nine out of ten cases the tactile figure should be larger than its print counterpart. An exception to the "bigger is better" haptic axiom is measurement. If the reader is asked to measure the figure, or portion thereof, the print shape and size must be preserved. If that reader happens to be a youngster, special care should be exercised because he is apt to be learning to use measurement tools. He may have a new sophisticated ruler or an old-fashioned metal one. We don't know.

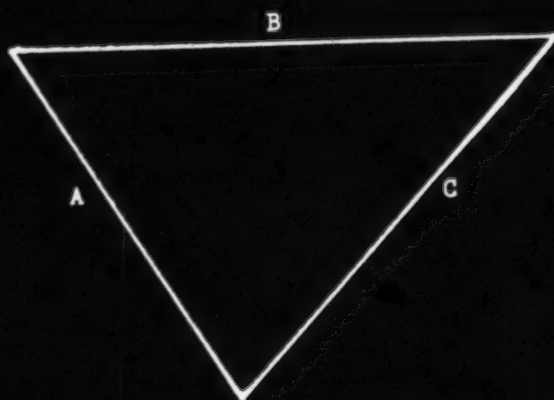
Without giving the young reader an unfair advantage, a transcriber who really THINKS TACTILE will avoid placing stumbling blocks in the reader's way. If the reader is

size, topped with the same size and shape braille paper on which labels have been added in appropriate positions before cutting. Both chipboard and braille paper should be glue-tacked on one spot so they can freely expand and contract during therming.

Keys and Identification

We are often asked why keys and transcriber notes should always precede the illustration itself. This placement alerts the reader to what's there and what he should be looking for; it gives him a feeling of assurance and saves him precious time. Generally a display that requires excessive search time is not very valuable to the reader.

Another reader-timesaving device often employed by transcribers is placing figure identification on the twenty-fifth braille line. This is done for college and secondary students when the figures are bound into a many-volume braille book. It allows the reader to scan quickly.



asked to measure the sides of this print figure the transcriber will accurately reproduce it in embossed form but

1. the entire shape (or outline of shape) will be built up to a generous one-sixteenth inch height, with straight sides rising perpendicular to the background — they *must not* slope;
2. labels will be moved to the *top* of the shape, placed close to their respective sides;
3. a scant two-inch blank space will surround the shape.

Either an old or new ruler can be securely snuggled up against the straight sides without the interference of bumpy, slippery labels and accurate measurement can be made.

Clean high-rise, straight-sided lines and areas can be constructed by tooling metal. It is impossible to do so with paper. An embossment can be constructed quickly using two layers of chipboard cut to shape and

TACTILE ILLUSTRATING

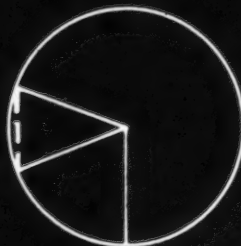
Tips for Tactile

Betty Epstein, Chairman

Clocks and watches come in many styles and pictures of them are often quite realistic, probably for eye appeal. When these pictures are represented tactilely the purpose of the embossed displays is not to inform the blind reader about clock fashions, but to tell time. The following tactile features are recommended:

1. Tick marks for hours straddling the clock's circumference and elevated at least as much as the circumference; each label without a number sign, outside the clockface, within one-eighth to one-fourth inch from its tick.
2. Tick marks for minutes eliminated except for the five-minute segment involved; these ticks do not extend outside the circumference.
3. Hands of discriminably different lengths and textures; a smooth, solid-line minute hand which ends within one-eighth to one-fourth inch from a tick; a textured (serrated wheel) line hour hand which is shorter and ends with an arrowhead — This should be the ONLY arrowhead on the clockface.

In an earlier issue of the *Bulletin* the circle (pie) graph was discussed. It was stated that the graph should be large enough so that no *CHORD* would be less than one-half inch in length. Although a chord was described, some transcribers were unsure and asked for a picture showing one. In this figure the dashed line (---) is the chord.

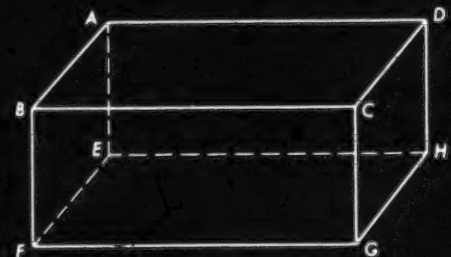


There are illustrators who are concerned about the minimum length of lines. *Code of Braille Textbook Formats and Techniques*, 1977, Appendix I, 73b(1) states that no line should be less than one-half inch in length. These illustrators

have been carefully making the sides of their arrowheads, points on number lines, ticks (technically known as scale marks) on clockfaces, etc. one-half inch long. Each of these is actually a point, or portion thereof, and is not considered a line. Each needs to be discriminable but it can be with much less length. Usually one-fourth inch is more than ample.

Particular care should be taken in making the dashed or broken line, often a smooth line. Each dash should be one-fourth to three-eighths inch long, with the spaces between dashes one-eighth inch shorter. One-fourth inch dashes call for one-eighth inch spaces and three-eighth inch dashes call for one-fourth inch spaces. Shorter dashes and spaces are often confused with heavily textured solid lines such as those produced with the Tandy #6 or #7. Longer dashes and spaces lead to another problem — the reader can get lost between dashes.

Transcribers are cautioned to avoid three-dimensional representations if at all possible because the nature of tactual perception makes such diagrams just a jumble of lines to the unschooled tactile reader. There are teaching techniques which convey the "3-D" concept. Occasionally it is necessary to produce a diagram such as this:



In such cases the transcriber must assume the reader understands the concept (It is a teaching problem), and make the embossed diagram. How? The currently accepted convention is to emboss the lines we can "see" as solid textured or smooth lines and to use the dashed line (as described above) for the "hidden" lines, which are shown dashed in the print figure.